

Occupational Health Information in  
Massachusetts: A Compendium of  
Databases Providing Information About  
Occupational Illnesses, Injuries, and  
Hazardous Exposures in Massachusetts

Occupational Health Surveillance Program  
Massachusetts Department of Public Health

May 2004

## **Introduction**

One of the first steps in developing a strategy for surveillance of work-related health problems at the state level is to identify existing data sources that may be used for this purpose. This document is a compendium of such data sources in Massachusetts identified by the Occupational Health Surveillance Program in the Massachusetts Department of Public Health (MDPH). It is provided as a resource for public health practitioners in Massachusetts, and also as a tool for consideration by other states. While the data sources in other states will be different, those listed here may be a helpful starting point, and the format for recording information about these sources may be useful.

This document must necessarily be seen as a work in progress. Whereas it includes most relevant data sets currently maintained by MDPH, documentation of data sets maintained by other agencies is still underway. Also with advances in information technologies, new data sources, such as the proposed Massachusetts Trauma Registry, are continually being developed.

### **For more information Contact:**

Occupational Health Surveillance Program  
Massachusetts Department of Public Health  
2 Boylston Street, 6<sup>th</sup> Floor  
Boston, MA 02116  
Telephone: (617) 988-3341

Acknowledgement: This work was funded by a Cooperative Agreement with the National Institute for Occupational Safety and Health, U01-OH07302

## Table of Contents

<b><u>Database</u></b>	<b><u>Page</u></b>
<b>Massachusetts Department of Public Health</b>	
Behavioral Risk Factor Surveillance System (BRFSS) . . . . .	3
Birth Certificate File . . . . .	4
Death Certificate File . . . . .	5
Linked Birth and Infant Death File . . . . .	6
Massachusetts Cancer Registry (MCR) . . . . .	7
Massachusetts Emergency Department Injury Surveillance System (EDISS) . . . .	8
Sentinel Event Notification System of Occupational Risk (SENSOR) Work-Related Asthma (WRA) . . . . .	9
Sentinel Event Notification System of Occupational Risk (SENSOR) Work-Related Injuries to Persons < 18 . . . . .	10
Sharps Injury Surveillance System . . . . .	11
Massachusetts Emergency Department Database . . . . .	12
Massachusetts Inpatient Hospital Discharge Database (MHDDS) . . . . .	13
Massachusetts Outpatient Observation Database . . . . .	14
<b>Other Agencies</b>	
Census of Fatal Occupational Injuries (CFOI) . . . . .	15
Massachusetts Burn Injury Reporting System (M-BIRS) . . . . .	16
Massachusetts Occupational Lead Poisoning Registry . . . . .	17
Survey of Occupational Injuries and Illnesses (SOII) . . . . .	18
Workers' Compensation Lost Time Claim File . . . . .	19

## Behavioral Risk Factor Surveillance System (BRFSS)

<b>Description</b>	The BRFSS is a random-digit-dial telephone health survey of non-institutionalized Massachusetts adults residing in households with telephones. The BRFSS continuously collects data on a variety of health characteristics, risk factors for chronic conditions, and preventative behaviors.
<b>Mandate and/or purpose for data collection</b>	The Centers for Disease Control and Prevention (CDC) fund all states to conduct surveys on behavioral health risks to inform program planning.
<b>Definition of a case record in the database</b>	A randomly selected adult (aged 18 years or older) in a household with a telephone who agrees to participate in the survey. Persons residing in institutions, group quarters of ten or more unrelated adults, and temporary residences for less than a month are not eligible for the survey.
<b>Period of data collection</b>	1986 forward.
<b>Method of data collection</b>	Random-digit-dial telephone survey of Massachusetts adults aged 18 years or older.
<b>Key data elements</b>	<u>Demographics</u> : age, sex, race, Hispanic ethnicity, country of origin, marital status, employment, education, income, industry and occupation (in some years). <u>Medical/Health Risk Factors</u> : overweight, weight control, physical activity, smoking behavior, alcohol use, routine medical checkup, high blood pressure, blood cholesterol, mammography, diabetes, pap smear, diet/nutrition, colorectal cancer screening, health insurance coverage, HIV/AIDS, vaccination, injury, etc.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Bureau of Census industry and occupation codes available for certain modules. <u>Diagnostic</u> : N/A
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP*; reports of summary aggregate data available on the BRFSS website. <u>Case-level data</u> : can be accessed with permission from the Health Survey Program; an analytic plan and confidentiality agreement are required, only necessary variables are provided, and town/city information is rarely disclosed unless it is well justified.
<b>Examples of published documents</b>	A Profile of Health Among Massachusetts Adults (annual report) Brooks DR, Mucci, LA. Support for Smoke-Free Restaurants Among Massachusetts Adults, 1992-1999. <i>Am J Public Health</i> 2001 Feb;91(2):300-3.
<b>Database location, point of contact, and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Health Survey Program Contact: Zi Zhang, 617-988-3395 Website: <a href="http://www.mass.gov/dph/bhsre/cdsp/brfss/brfss.htm">www.mass.gov/dph/bhsre/cdsp/brfss/brfss.htm</a>

--	--

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

<b>Birth Certificate File</b>	
<b>Description</b>	The computerized birth file contains approximately 75,000-90,000 births per year back to 1969, and reports demographic and medical items.
<b>Mandate and/or purpose for data collection</b>	Registration of Massachusetts births by the Registry of Vital Records and Statistics (RVRS) is required under Massachusetts General Law c. 46 §1 and reported under c.111 § 24B. Purpose is for legal registration and health status monitoring including birth outcomes, prenatal care and infant mortality.
<b>Definition of a case record in the database</b>	A birth that occurs in the state of Massachusetts or a birth to a Massachusetts resident that occurs out of state.
<b>Period of data collection</b>	1841 forward (computerized since 1969; records from 1841-1910 available at State Archives; earlier records may be available at the city or town of occurrence).
<b>Method of data collection</b>	Data are collected at the hospital or birthing center and sent directly to the RVRS at the Massachusetts Department of Public Health (MDPH). Most data are reported electronically.
<b>Key data elements</b>	<u>Newborn's</u> : name, sex, plurality, date of birth, birthplace, birth weight, abnormal conditions, congenital anomalies, neonatal procedures. <u>Parental (mother's and father's)</u> : industry and occupation during the year prior to the birth, race and ancestry, language preference, education. <u>Maternal (mother's)</u> : demographic characteristics, prenatal care and procedures, medical risk factors, labor and delivery conditions and procedures, payment source.
<b>Coding of key variables</b>	<u>Occupational</u> : Industry and occupation not routinely coded. <u>Diagnostic</u> : N/A
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP*. <u>Case-level data</u> : available by individual release of non-restricted paper certificates without confidential data; limited confidential data for research (in computerized files by year since 1969) subject to approval by MDPH through a detailed review process (Massachusetts General Law c. 111, §§24 A and B and 105 CMR 305.000).
<b>Examples of published documents</b>	Massachusetts Births Annual Report of Vital Statistics in Massachusetts (Public Document No. 1) Adolescent Births: A Statistical Profile (2000)
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Registry of Vital Records and Statistics Contact: Charlene Zion, 617-740-2670 Website: <a href="http://www.mass.gov/dph/bhsre/rvr/rvr.htm">www.mass.gov/dph/bhsre/rvr/rvr.htm</a>

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health

and social indicators (<http://masschip.state.ma.us>).

<b>Death Certificate File</b>	
<b>Description</b>	The computerized death file contains approximately 50,000-60,000 deaths per year back to 1969 and reports demographic and medical condition items.
<b>Mandate and/or purpose for data collection</b>	Registration of Massachusetts deaths through the Registry of Vital Records and Statistics (RVRS) is required under Massachusetts General Law c. 46 §1. Purpose is for legal, administrative and statistical research.
<b>Definition of a case record in the database</b>	The death of a Massachusetts resident or a death that occurs in the state of Massachusetts.
<b>Period of data collection</b>	1841 forward (computerized since 1969; records from 1841-1910 available at State Archives; earlier records may be available at the city or town of occurrence).
<b>Method of data collection</b>	Death certificates compiled from data collected by funeral directors, attending/certifying physicians or medical examiners, burial agents, and city/town clerks are sent to the state RVRS, at the Massachusetts Department of Public Health (MDPH). The records are coded, data-entered and compiled into a database.
<b>Key data elements</b>	Name, age, sex, race, Hispanic ethnicity (since 1989), date of death, place of death, injury/work-relation, causes of death, manner of death, mentioned conditions, usual industry and occupation, autopsy indicator, immediate disposition.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Bureau of Census industry and occupation codes from 1982 to 1992. <u>Diagnostic</u> : International Classification of Diseases, Tenth Revision (ICD-10) codes from calendar year 1999 to present; earlier ICD codes as appropriate by year of death.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP*. <u>Case-level data</u> : available for deaths that occurred in Massachusetts only.
<b>Examples of published documents</b>	Massachusetts Deaths Annual Report of Vital Statistics in Massachusetts (Public Document No. 1) Injuries to Massachusetts Residents: 1995-1999
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Registry of Vital Records & Statistics Contact: Charlene Zion, 617-740-2670 Website: <a href="http://www.mass.gov/dph/bhsre/rvr/rvr.htm">www.mass.gov/dph/bhsre/rvr/rvr.htm</a>

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

## Linked Birth and Infant Death File

<b>Description</b>	The linked file combines birth and death certificate data for infants who die before their first birthday, based upon the year of birth.
<b>Mandate and/or purpose for data collection</b>	Purpose is for monitoring and researching infant mortality.
<b>Definition of a case record in the database</b>	Any Massachusetts resident infant who died within the first year of life who was a resident of Massachusetts at the time of birth.
<b>Period of data collection</b>	1969 forward for deaths of children whose age is less than 28 days. For the years 1970-1972, 1978-1980, and 1982 to the present, the linked birth and death certificates are also available for the deaths of children whose age is at least 28 days but less than one year.
<b>Method of data collection</b>	Birth certificate data are collected at the hospital or birthing center and sent directly to the state Registry of Vital Records and Statistics (RVRS) at the Massachusetts Department of Public Health (MDPH). Death certificate data are collected by funeral directors and sent directly to the RVRS after registration at the city/town of death occurrence. The two files are then linked.
<b>Key data elements</b>	<u>From the birth certificate:</u> newborn's: name, sex, plurality, date of birth, birthplace, birth weight, abnormal conditions, congenital anomalies, neonatal conditions; parental: industry and occupation during the year prior to the birth, race and ancestry, language preference, education; maternal: demographic characteristics, medical risk factors, prenatal care and procedures, labor and delivery conditions and procedures. <u>From the death certificate:</u> name, age, sex, race, Hispanic ethnicity (since 1989), date of death, place of death, cause of death, underlying cause.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational:</u> Industry and occupation not routinely coded. <u>Diagnostic:</u> International Classification of Diseases, Tenth Revision (ICD-10) codes from calendar year 1999 to present; earlier ICD codes as appropriate by year of death.
<b>Data accessibility</b>	<u>Summary aggregate data:</u> available on MassCHIP*. <u>Case-level data:</u> Limited data for research subject to approval by MDPH through a detailed review process (Massachusetts General Law c. 111, §§24 A and B and 105 CMR 305.000).
<b>Examples of published documents</b>	Annual Report of Vital Statistics in Massachusetts (Public Document No. 1)
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Registry of Vital Records and Statistics Contact: Charlene Zion, 617-740-2670 Website: <a href="http://www.mass.gov/dph/bhsre/rvr/rvr.htm">www.mass.gov/dph/bhsre/rvr/rvr.htm</a>

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

## Massachusetts Cancer Registry (MCR)

<b>Description</b>	The MCR is responsible for the collection of information regarding all newly diagnosed cases of cancer and benign brain-related tumor disease in Massachusetts. These data provide crucial information for monitoring the impact of environmental and occupational hazards, as well as for designing and evaluating cancer prevention and control programs.
<b>Mandate and/or purpose for data collection</b>	All acute care hospitals, licensed clinics, and healthcare practitioners in Massachusetts are required to report of all newly diagnosed cases of cancer and benign brain-related tumor disease, within six months of diagnosis or first contact, to the Massachusetts Department of Public Health (MDPH), under Massachusetts General Laws c. 111, § 111B. Data are used for surveillance, cancer control, and research.
<b>Definition of a case record in the database</b>	A newly diagnosed case of malignant neoplasm (excluding basal and squamous cell skin carcinomas), and benign brain-related tumor disease.
<b>Period of data collection</b>	1982 forward ( <i>in situ</i> neoplasms were not collected until 1992).
<b>Method of data collection</b>	For 1982-1994, only Massachusetts hospitals were required to submit data. For cases diagnosed as of 1995, MCR regulations were revised to require any facility, institution, or healthcare provider that diagnoses, evaluates, or provides treatment to cancer patients to report.
<b>Key data elements</b>	<u>Demographics</u> : age, sex, race, ethnicity (Spanish surname/origin), state of birth, usual industry, usual occupation, smoking status. <u>Tumor Information</u> : place and date of diagnosis, primary site, histology, stage, sequence number, confirmation method, vital status. <u>Treatment</u> : details of first course of treatment
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Bureau of Census industry and occupation codes through 1994 (1995-1996 pending). <u>Diagnostic</u> : International Classification of Diseases, Ninth and Tenth Revisions (ICD-9 and ICD-10) mortality codes, International Classification of Diseases for Oncology, Third Edition (ICD-O-3) primary site codes and histology codes; Tumor, Nodes, Metastases (TNM) stages, Surveillance, Epidemiology and End Results Program (SEER) summary stages.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP*; reports of summary aggregate data available on the MCR website. <u>Case-level data</u> : Limited data for research subject to approval by MDPH through a detailed review process (Massachusetts General Law c. 111, §§ 24 A and 111B, and 105 CMR 301.000).
<b>Examples of published documents</b>	Cancer Incidence and Mortality in Massachusetts – Statewide Report, annual Cancer Incidence by Occupation and Industry in Massachusetts, 1982-1983 Asbestos-related Disease Among Massachusetts Workers, 1982-1987 Sama S, Martin TM, Davis LK, Kriebel D. Cancer Incidence Among Massachusetts Fire Fighters, 1982-1986. <i>Am J Ind Med</i> 1990;18:47-54.
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Massachusetts Cancer Registry Contact: Susan Gershman, 617-988-3367 Website: <a href="http://www.mass.gov/dph/bhsre/mcr/canreg.htm">www.mass.gov/dph/bhsre/mcr/canreg.htm</a>



\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

## Massachusetts Emergency Department Injury Surveillance System (EDISS)

<b>Description</b>	The EDISS is a stratified random sample of twelve Massachusetts hospital emergency departments that submit data on all injuries treated and released in the emergency department. Data are used to provide statewide estimates on injuries treated in emergency departments in the Commonwealth.
<b>Mandate and/or purpose for data collection</b>	Injury data is collected from a stratified random sample of twelve Massachusetts Emergency Departments in order to generate statewide estimates of injuries treated in Emergency Departments. Hospital participation in this system is strictly voluntary.
<b>Definition of a case record in the database</b>	Any case treated and discharged at one of the sampled Emergency Departments that was assigned an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9 CM) injury code (800-999) and/or external cause of injury code (E800-E999) by medical records coders at the participating hospitals.
<b>Period of data collection</b>	Fiscal years 1999-2001*.
<b>Method of data collection</b>	Medical Information Systems from the participating hospitals submit data electronically.
<b>Key data elements</b>	<u>Demographic Information</u> : age, sex, race/ethnicity, city of residence, occupation. <u>Incident Information</u> : date of visit, injury intent, injury cause, mode of arrival, place of occurrence. <u>Medical Information</u> : chief complaint, nature of injury (e.g., fracture to left arm), discharge diagnosis, disposition.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Occupation not routinely coded. <u>Diagnostic</u> : ICD-9 CM codes.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available for injury profiles by topic and year. <u>Case-level data</u> : not available.
<b>Examples of published documents</b>	Injuries to Massachusetts Residents: 1995-1999 Massachusetts Statewide Injury Data Book Injuries to Boston Children: 1995-1999 Suicides and Self-inflicted Injury in Massachusetts 1999-2000 Barber CW et al. Massachusetts Weapon-Related Injury Surveillance System. <i>Am J Prev Med</i> 1998 Oct;15(3 Suppl):57-66.
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Injury Surveillance Program Contact: Beth Hume, 617-988-3318 Website: <a href="http://www.mass.gov/dph/bhsre/isp/isp.htm">www.mass.gov/dph/bhsre/isp/isp.htm</a>

\*In October 2001 (Fiscal Year 2002), EDISS was replaced with the Massachusetts Emergency Department Database (see page 14).

## Sentinel Event Notification System for Occupational Risk (SENSOR) - Work-Related Asthma (WRA)

<b>Description</b>	SENSOR-WRA is a case-based surveillance system in which individual work-related asthma cases are identified primarily via physician reports. Other data sources include hospital discharge data, workers' compensation, and emergency department data.
<b>Mandate and/or purpose for data collection</b>	All health care providers practicing in Massachusetts are required to report confirmed or suspected cases of WRA diagnosed by a physician to the Massachusetts Department of Public Health (MDPH), in accordance with Regulation 105 CMR 300.180. Summary data are used to characterize the distribution of work-related asthma in the Commonwealth and to target broad-based intervention efforts. The goal is to prevent WRA by identifying worksites, industries and occupations at risk.
<b>Definition of a case record in the database</b>	Any person diagnosed with asthma by a physician and whose asthma was found to be associated with work. This includes any person newly sensitized by exposures at work, pre-existing asthma aggravated by exposures at work, and any person for whom a one-time exposure to a chemical at work resulted in generalized airway hyperactivity.
<b>Period of data collection</b>	March 1993 forward.
<b>Method of data collection</b>	Hard copy of the "Confidential Report of Occupational Disease and Injury" form either mailed or faxed to the Occupational Health Surveillance Program (OHSP) at MDPH. Hospital records for patients hospitalized with WRA mailed to OHSP when requested.
<b>Key data elements</b>	<u>Patient's</u> : name, address, telephone number, date of birth, sex, race, ethnicity (Hispanic origin), occupation, type of industry, date of diagnosis, suspected agent, type of asthma. <u>Employer's</u> : name, address. <u>Physician's</u> : name, address.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Standard Industrial Classification (SIC) industry codes, Bureau of Census occupation codes. <u>Diagnostic</u> : Association of Occupational and Environmental Clinics (AOEC) coding scheme for suspected agent.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : Reports of aggregate data by industry, occupation, suspected agent, sex, and race available on the OHSP website (SENSOR Occupational Lung Disease Bulletins). <u>Case-level data</u> : Limited data for research subject to approval by MDPH through a detailed review process (Massachusetts General Law c. 111, §24 A), the Research and Data Access Review Committee.
<b>Examples of published documents</b>	SENSOR Occupational Lung Disease Bulletin (published quarterly) Jajosky RA et al. Surveillance of Work-Related Asthma in Selected U.S. States Using Surveillance Guidelines for State Health Departments—California, Massachusetts, Michigan, and New Jersey, 1993-1995. <i>MMWR CDC Surveill Summ</i> 1999 Jun 25;48(3):1-20.
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Occupational Health Surveillance Program Contact: Kathy Raleigh, 617-988-3345 Website: <a href="http://www.mass.gov/dph/bhsre/ohsp/ohsp.htm">www.mass.gov/dph/bhsre/ohsp/ohsp.htm</a>

# Sentinel Event Notification System for Occupational Risk (SENSOR)

## - Work-Related Injuries to Persons < 18

<b>Description</b>	SENSOR-Work-Related Injuries to Persons <18 is a case-based surveillance system in which occupational injuries to teenagers aged less than 18 years old are identified primarily via hospital emergency departments, workers' compensation claims for five or more lost workday injuries, physician reports, and hospital discharge data.
<b>Mandate and/or purpose for data collection</b>	All health care providers practicing in Massachusetts and healthcare facilities in Massachusetts are required to report cases to the Massachusetts Department of Public Health (MDPH), in accordance with Regulation 105 CMR 300.180. Goals are: (1) to generate summary data; and (2) to identify sentinel cases for workplace follow-up.
<b>Definition of a case record in the database</b>	A work-related injury to a person aged less than 18 years old and treated by a Massachusetts physician or in a Massachusetts hospital.
<b>Period of data collection</b>	July 1993 forward.
<b>Method of data collection</b>	Primarily: (1) hard copies of computer-generated data runs from hospital emergency department visits; (2) hard copies of the "Confidential Reports of Occupational Disease and Injury" form mailed or faxed to the Occupational Health Surveillance Program (OHSP) at MDPH; and (3) Workers' Compensation First Reports from the Department of Industrial Accidents. We also obtain cases from the Inpatient Hospital Discharge Database.
<b>Key data elements</b>	<u>Patient's</u> : name, address, telephone number, date of birth, sex, race and/or ethnicity (Hispanic origin), industry, occupation, date of injury or diagnosis, nature of injury; additional information on source of injury and event available for a subset of cases. <u>Employer's</u> : name, location. <u>Hospital's or physician's</u> : name, address.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Standard Industrial Classification (SIC) industry codes, Bureau of Census occupation codes. <u>Diagnostic</u> : Occupational Illness and Injury Classification (OIIC) codes for injury, body part, source, event.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : Reports of aggregate data stripped of personal and employer identifiers available by age, sex, industry, injury (and by combinations of variables) on OHSP website. <u>Case-level data</u> : Limited data for research subject to approval by MDPH through a detailed review process (Massachusetts General Law c. 111, §24 A), the Research and Data Access Review Committee.
<b>Examples of published documents</b>	Newsletter from the <i>Teens at Work: Injury Surveillance and Prevention Project</i> Fact Sheets on surveillance updates for 1993-1999 are available for the top five industries where teens report being injured.
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Occupational Health Surveillance Program Contact: Beatriz Pazos, 617-988-3343 Website: <a href="http://www.mass.gov/dph/bhsre/ohsp/ohsp.htm">www.mass.gov/dph/bhsre/ohsp/ohsp.htm</a>

## Sharps Injury Surveillance System

<b>Description</b>	The Massachusetts Sharps Injury Surveillance System collects data regarding sharps injuries among healthcare workers in Massachusetts hospitals. Information such as occupation of the healthcare worker, department in which the injury occurred, type of device involved in the injury, whether or not the device was a safety device, procedure for which the device was used or intended, and how the injury occurred is collected for each injury.
<b>Mandate and/or purpose for data collection</b>	The Massachusetts Department of Public Health (MDPH) requires all licensed acute and non-acute care hospitals to report all sharps injuries to healthcare workers to the MDPH on an annual basis, in accordance with 105 CMR 130.1001.
<b>Definition of a case record in the database</b>	Any reportable exposure incident that results from the performance of a healthcare worker's job duties. A reportable exposure incident means contact with blood or other potentially infectious materials as a result of events that pierce the skin or mucous membranes.
<b>Period of data collection</b>	October 2001 forward.
<b>Method of data collection</b>	Annual Summary of Sharps Injuries is submitted to MDPH by each licensed acute and non-acute care hospital.
<b>Key data elements</b>	Employer, date of injury, employment status of exposed healthcare worker, occupation, department in which incident occurred, type of device involved in the incident, brand/model of device, whether it was a safety device, purpose or procedure for which the device was used, how the incident occurred; <i>no race or ethnicity information</i> .
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Pick lists based on the CDC National Surveillance System for Hospital Healthcare Workers (NaSH) are provided to hospitals for occupation and department. <u>Diagnostic</u> : N/A
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available by year. <u>Case-level data</u> : not available.
<b>Examples of published documents</b>	Sharps Injuries among Hospital Workers in Massachusetts (annual report)
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Occupational Health Surveillance Program Contact: Angela Laramie, 617-988-3342 Website: <a href="http://www.mass.gov/dph/bhsre/ohsp/ohsp.htm">www.mass.gov/dph/bhsre/ohsp/ohsp.htm</a>

<b>Description</b>	The Massachusetts Emergency Department (ED) Database includes information only for those patients who are not admitted to the <i>reporting</i> hospital as an inpatient or an outpatient observation patient. Information on patient demographics, payer, diagnoses, services and procedures, cause of injury, and hospital and visit characteristics is collected from the medical record created by attending physicians, nurses, other personnel.
<b>Mandate and/or purpose for data collection</b>	Massachusetts hospitals are required to report certain data for each outpatient ED visit, in accordance with Regulation 114.1 CMR 17.00. The purposes of the database are: 1) to accurately quantify and track the number and type of ED visits in Massachusetts; 2) to provide case-mix information to hospitals and communities; and 3) to consolidate ED reporting streams. ED visit data shall be reported for all emergency department visits, including Satellite Emergency Facility visits, by patients whose visits result in neither an outpatient observation stay nor an inpatient admission at the reporting facility.
<b>Definition of a case record in the database</b>	Any outpatient emergency department discharge in the state of Massachusetts. The ED Visit file contains the following tables: EDVisit – actual data – one record per visit DataSubmissionLog – contains a listing by provider and quarter of total charges, total number of ED visits, pass/fail status of file ErrorLog – listing of all errors found by provider and quarter HospitalsByEMSRegion – listing of each provider’s EMS region and teaching status LookupCCSLevel1 – listing of CCS code for each diagnosis LookupCCSLevel1Description – listing of descriptions for each CCS code PayerCategories – listing of all payer types and sources ServiceSiteSummary – information by provider and quarter on the number of treatment beds, observation beds, total ED beds, inpatient visits, outpatient visits
<b>Period of data collection</b>	Fiscal year 2002 forward (preparing retrospective data from 2000/2001 is ongoing ).
<b>Method of data collection</b>	Electronic submission, through DHCFP-INET web-based system.
<b>Key data elements</b>	Birth date, hospital and physician information, sex, race (includes Hispanic), type of visit, primary and secondary source of payment, diagnosis codes, procedure codes, E-codes, reason for visit, mode of transport, medical record number; <i>no industry or occupation information</i> .
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Expected principle source of payment variable includes a code for “Workers’ Compensation.” <u>Diagnostic</u> : International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9 CM) codes. All codes in the diagnosis section of ICD-9-CM are classified. Beginning with the 1999 version of CCS, a classification system for E-Codes was incorporated.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP*. <u>Case-level data</u> : available through application process
<b>Examples of published documents</b>	Preliminary Analysis of Emergency Department Data (2003) Massachusetts Outpatient ED Visits by Age (2002) Comparing Acute Care Hospital Emergency Department Costs (1997)
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Health Data Policy Group Contact: Ms. Raphaela Miller, raphaela.miller@state.ma.us – 617-988-3145 Website: <a href="http://www.mass.gov/dhcfp/pages/dhcfp132.htm">www.mass.gov/dhcfp/pages/dhcfp132.htm</a>

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

## Massachusetts Inpatient Hospital Discharge Database (MHDDS)

<b>Description</b>	The Hospital Discharge Database (HDD) contains case-specific discharge data including utilization data, clinical data, and socioeconomic data for patients admitted to acute care hospitals
--------------------	---

	in Massachusetts. It also contains utilization, revenue, expense, and payer data provided by hospitals in their annual cost reports filed with the Massachusetts Division of Healthcare Finance and Policy (DHCFP).
<b>Mandate and/or purpose for data collection</b>	All acute care hospitals in Massachusetts are required to report the case mix of their patients and the charges for services provided to their patients to the DHCFP, in accordance with Regulation 114.1 CMR 17.00. Data were initially used for establishing reimbursement rates, but now are also used for statistical research, surveillance purposes, and the formulation of health care delivery and financing policy.
<b>Definition of a case record in the database</b>	Any inpatient discharged from a short stay acute non-government Massachusetts hospital.
<b>Period of data collection</b>	Fiscal year 1984 forward.
<b>Method of data collection</b>	The DHCFP creates a file based on data reported from hospitals in Massachusetts. The DHCFP provides access to computerized files containing data to the Massachusetts Department of Public Health. DHCFP-INET is the new web-based electronic submission service to reduce administrative burden and save time and money.
<b>Key data elements</b>	Dates of admission and discharge, residence, sex, age, race, date of birth, principal diagnosis, associated diagnosis, expected principal source of payment, nature of admission (e.g., emergency), procedures, charges; <i>no industry or occupation information</i> . Effective October 1, 2001, two new data elements were added to Regulation 114.1 CMR 17.00 —an ER indicator and an Observation indicator.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Expected principle source of payment variable includes a code for “Workers’ Compensation”. <u>Diagnostic</u> : International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9 CM) codes.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on MassCHIP* and by contacting DHCFP. Release of these data is governed by Regulation 114.5 CMR 2.00: Disclosure of Hospital Case Mix and Charge Data. Case mix data are considered personal data and therefore are subject to the provisions of the Fair Information Practices Act (FIPA), and patient confidentiality is strictly enforced. <u>Case-level data</u> : available through written application process.
<b>Examples of published documents</b>	<i>The Financial Health of Massachusetts Hospitals</i> Published: August 2000 & July 2002 Analysis in Brief ( <i>Do Medicaid Patients Use More Inpatient Resources?</i> June 2002) Datapoint (published quarterly) Injuries to Massachusetts Residents: 1995-1999
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation Health Data Policy Group Contact: Ms. Raphaela Miller, <a href="mailto:raphaela.miller@state.ma.us">raphaela.miller@state.ma.us</a> – 617-988-3145 Website: <a href="http://www.mass.gov/dhcfp/pages/dhcfp112.htm">www.mass.gov/dhcfp/pages/dhcfp112.htm</a>

\*The Massachusetts Community Health Information Profile provides online access to aggregate community-level data regarding health and social indicators (<http://masschip.state.ma.us>).

## Massachusetts Outpatient Observation Database

<b>Description</b>	The Massachusetts Outpatient Observation Database consists of patient-level information including socio-demographics, clinical data, and total charge data for observation stay patients in acute care hospitals in Massachusetts.
<b>Mandate and/or purpose for data collection</b>	The Outpatient Observation Data includes patients who receive outpatient observation services and are not admitted to the hospital. All acute care hospitals in Massachusetts are required to report the case mix of their patients and the charges for services provided to their patients to the Massachusetts Division of Healthcare Finance and Policy (DHCFP), in accordance with Regulation 114.1 CMR 17.00. Data are used for research (e.g., hospital utilization, payer and insurer analysis), strategic health planning, and policy making.
<b>Definition of a case record in the database</b>	Any person who receives outpatient observation services and who is not admitted to the hospital. An outpatient observation stay is a category of hospital stay in which a patient's condition is evaluated and treatment is provided to determine need for possible admission to the hospital. A stay may include the use of a bed, and periodic monitoring by the hospital's physicians, nursing, and other staff and the patient may stay overnight.
<b>Period of data collection</b>	Fiscal Year 1998 forward.
<b>Method of data collection</b>	The DHCFP creates a file based on data reported from hospitals in Massachusetts. The Division of Health Care Finance and Policy is now accepting UCP claims submissions through its secure INET web site.
<b>Key data elements</b>	Begin & end dates of admission and discharge, residence, sex, age, race, date of birth, principal diagnosis, hours of service, associated diagnosis, expected principal source of payment, nature of admission (e.g., emergency), procedures, charges; <i>no industry or occupation information</i> .
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Expected principle source of payment variable includes a code for "Workers' Compensation". <u>Diagnostic</u> : International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9 CM) codes.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available by contacting DHCFP. Release of these data is governed by Regulation 114.5 CMR 2.00: Disclosure of Hospital Case Mix and Charge Data. Case mix data are considered personal data and therefore are subject to the provisions of the Fair Information Practices Act (FIPA), and patient confidentiality is strictly enforced. <u>Case-level data</u> : available through application process.
<b>Examples of published documents</b>	Hospital Observation Stays in Massachusetts
<b>Database location, point of contact and website</b>	Massachusetts Department of Public Health: Center for Health Information, Statistics, Research, and Evaluation; Health Data Policy Group Contact: Ms. Raphaela Miller, <a href="mailto:raphaela.miller@state.ma.us">raphaela.miller@state.ma.us</a> – 617-988-3145 Website: <a href="http://www.mass.gov/dhcfp/pages/dhcfp_81.htm">www.mass.gov/dhcfp/pages/dhcfp_81.htm</a>

## Census of Fatal Occupational Injuries (CFOI)

<b>Description</b>	The CFOI provides information about workers who have been fatally injured on the job and the events leading to the fatality. More than 28 separate data elements, including information on the worker, the fatal incident, and the machinery or equipment involved, are reported.
<b>Mandate and/or purpose for data collection</b>	The U.S. Secretary of Labor is required to “compile accurate statistics on work injuries and illnesses”, in accordance with the Occupational Safety and Health (OSH) Act of 1970 §24(a) (U.S. Public Law 91-596). Reliance on the OSH Survey of injuries and illnesses sampling technique undercounted worker injury deaths, so a more accurate census program was developed in 1992. Utilizing numerous sources, the CFOI is better able to identify all fatal work related injuries.
<b>Definition of a case record in the database</b>	Injury fatality that is a result of a traumatic work related incident. Worker was on employer’s premises to work, or if not on the employer’s premises, the person was working, or the event or exposure was related to the person’s work or status as an employee. At least two independent source documents are required.
<b>Period of data collection</b>	1992 forward.
<b>Method of data collection</b>	State and Federal co-operative program using death certificates, State Workers’ Compensation records, news media and other federal, state, and local government agencies, and private sources.
<b>Key data elements</b>	Name, age, sex, race, ethnicity (Hispanic origin), death certificate number, occupation, length of service for: occupation, current position, and employer; usual lifetime industry and employer, state of incident and death, location, nature, part of body, source (plus secondary source), event, all supporting source documents, publishable comments (up to 250 characters) of how injury or illness happened.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Standard Industrial Classification (SIC) industry codes, Bureau of Census occupation codes. <u>Diagnostic</u> : Occupational Illness and Injury Classification (OIIC) codes for: nature of injury or illness, part of body, sources of injury, event, secondary source.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available on Bureau of Labor Statistics (BLS) website for various nature, source, event and characteristics; annual press release information and special tables. <u>Case-level data</u> : Researchers can formally apply to receive the CFOI Research File, which has the individual fatality micro-data with personal identifiers removed.
<b>Examples of published documents</b>	National press release and counts (and rates) by states Individual State publications from participating State Agencies Massachusetts Fatal Injuries at Work: Annual Update Fatal Workplace Injuries in 1996: A Collection of Data and Analysis Fatal Occupational Injuries in Massachusetts, 1991-1999
<b>Database location, point of contact and website</b>	United States Department of Labor: Bureau of Labor Statistics, New England Bureau of Labor Statistics Information Office; Census of Fatal Occupational Injuries Program Contact: Mr. James Hart, 617-565-2300 New England BLS web site: <a href="http://www.bls.gov/ro1/home.htm">www.bls.gov/ro1/home.htm</a> National BLS web site: <a href="http://stats.bls.gov">http://stats.bls.gov</a>



## Massachusetts Burn Injury Reporting System (M-BIRS)

<b>Description</b>	The M-BIRS is a database of burns, as reported to the Office of the State Fire Marshal by acute care hospitals and other health care facilities in Massachusetts.
<b>Mandate and/or purpose for data collection</b>	The treatment of all burn injuries extending over five percent or more of a person's body surface area must be reported immediately to the State Fire Marshal, under Massachusetts General Law c. 112, §12A, and are reviewed for possible suspicious circumstances. M-BIRS was originally established to help fire services and law enforcement personnel identify arsonists who may have been burned while setting fires, but is now also used to identify problems that need to be addressed by public education, regulation, or the development of appropriate intervention strategies.
<b>Definition of a case record in the database</b>	Treatment of any burn injury extending over five percent or more of a person's body surface area.
<b>Period of data collection</b>	1990 forward.
<b>Method of data collection</b>	Physician examining or treating a person with a burn injury as defined above, or whenever such case is treated in hospital, sanatorium or other institution, the manager, superintendent or other person in charge thereof, shall report such case immediately to the state Fire Marshal and to the police in the community where the burn occurred. Reported by telephone, mail, or fax.
<b>Key data elements</b>	Reporting hospital and attending physician, patient's name, home address, age, and sex, notification of local police, whether person was at work when burned, date of burn, address where burn occurred, part of body injured or percentage burned surface area, cause of burn, type of burn, severity; <i>no race, ethnicity, industry or occupation data.</i>
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : N/A <u>Diagnostic</u> : Type of burn: flame, scald, chemical, fire, electrical, sunburn, explosion, contact, other. Severity: minor, moderate, severe, life-threatening, dead.
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available to researchers with special permission, when confidentiality and reliability parameters are met. <u>Case-level data</u> : not available.
<b>Examples of published documents</b>	Massachusetts Burn Injury Reporting System Annual Report
<b>Database location, point of contact and website</b>	Massachusetts Department of Fire Services: Office of the State Fire Marshal Contact: Derryl Dion, 978-567-3382 Website: <a href="http://www.mass.gov/dfs/osfm/firedata/mbirs/index.htm">www.mass.gov/dfs/osfm/firedata/mbirs/index.htm</a>

## Massachusetts Occupational Lead Poisoning Registry

<b>Description</b>	The Massachusetts Occupational Lead Poisoning Registry receives blood lead reports for adults, from laboratories, of test results 15 mcg/dL or greater. The Registry records and analyzes these results and follows up with registrants who have blood lead levels 25 mcg/dL or higher.
<b>Mandate and/or purpose for data collection</b>	All Massachusetts laboratories that either perform blood lead analysis or send samples out-of-state for analysis must report results of greater than or equal to 15 mcg/dL for persons aged 15 years or older, in accordance with Regulation 454 CMR 23.00. Laboratories must report the results within one week of analysis.
<b>Definition of a case record in the database</b>	Blood lead level greater than or equal to 15 mcg/dL of a person aged 15 years or older.
<b>Period of data collection</b>	1991 forward.
<b>Method of data collection</b>	Laboratory report mailed to Lead Registry. Lab may use own format or Lead Registry's form. Additional information obtained from physician.
<b>Key data elements</b>	<u>Patient's</u> : name, address, telephone number, age, sex, race, ethnicity (Hispanic origin), industry, occupation, employer, blood lead level, zinc protoporphyrin. <u>Physician's</u> : name, address, telephone number.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Standard Industrial Classification (SIC) industry codes, Bureau of Census occupation codes. <u>Diagnostic</u> : N/A
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available by industry, occupation, age, sex, race, ethnicity, and blood lead range <u>Case-level data</u> : not available, except to state and federal surveillance programs (MDPH, Adult Blood Lead Epidemiology and Surveillance (ABLES) of NIOSH).
<b>Examples of published documents</b>	Tumpowsky C, Davis L, Rabin R. Elevated Blood Lead Levels Among Adults in Massachusetts, 1991-1995. <i>Public Health Rep</i> 2000 Jul-Aug;115(4):364-9.
<b>Database location, point of contact and website</b>	Massachusetts Department of Labor: Division of Occupational Safety; Lead Program Contact: Richard Rabin, 617-969-7177 Website: <a href="http://www.state.ma.us/dos/pages/lead.htm">www.state.ma.us/dos/pages/lead.htm</a>

# Survey of Occupational Injuries and Illnesses (SOII)

<b>Description</b>	The SOII presents summary data on the numbers and rates of nonfatal injuries and illnesses by industry, as well as demographic data on the more seriously injured and ill workers and the circumstances of their injuries and illnesses, such as the nature of the disabling condition, the part of body affected, the event or exposure leading to the condition, and the source producing that condition.
<b>Mandate and/or purpose for data collection</b>	The U.S. Secretary of Labor is required to “compile accurate statistics on work injuries and illnesses”, in accordance with the Occupational Safety and Health (OSH) Act of 1970 §24(a) (U.S. Public Law 91-596). Authority was granted to the Bureau of Labor Statistics (BLS) to perform data collection. The Survey was redesigned in 1992 to collect additional data on the worker and case characteristics of injuries and illnesses involving one or more days away from work.
<b>Definition of a case record in the database</b>	A non-fatal occupational injury or illness that involves lost work time, medical treatment other than first aid, restriction of work or motion, loss of consciousness, or transfer to another job. (Estimates are based on data from logs of occupational injuries and illnesses maintained by employers as required under the OSH Act.)
<b>Period of data collection</b>	1992 forward (1971 forward for many states).
<b>Method of data collection</b>	Survey forms are mailed annually to the establishments included in the sample by participating states. BLS directly collects representative sample for non-participating states.
<b>Key data elements</b>	Injury and illness rates by industry; number of cases by industry and occupation; days away from work (DAFW) by industry and occupation. <u>For DAFW, case demographics:</u> occupation, sex, age, race or ethnic origin, length of service on the job, employer’s industry and size. <u>Case characteristics:</u> nature of injury or illness, part of body affected, source of injury or illness, event or exposure that resulted in the injury or illness, number of DAFW, median DAFW.
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational:</u> Standard Industrial Classification (SIC) industry codes, Bureau of Census occupation codes. <u>Diagnostic:</u> Occupational Illness and Injury Classification (OIIC) codes for: nature of injury of illness, part of body, sources of injury, event, secondary source.
<b>Data accessibility</b>	<u>Summary aggregate data:</u> available when confidentiality and reliability parameters are met. <u>Case-level data:</u> Individual employer and case or micro-data are not published due to BLS confidentiality requirements; individual records are available to researchers only in the Washington, D.C. office.
<b>Examples of published documents</b>	Occupational Injuries and Illnesses: Counts, Rates and Characteristics National and state non-fatal injury and illness summary level estimates Case and Demographic Bulletin Tables Industry counts and frequency rates Lost-worktime cases – characteristics, worker demographics, and resulting lost time
<b>Database location, point of contact and website</b>	United States Department of Labor: Bureau of Labor Statistics, New England Bureau of Labor Statistics Information Office; Occupational Safety and Health (OSH) Program Contact: Mr. James Hart, 617-565-2300 New England BLS web site: <a href="http://www.bls.gov/ro1/home.htm">www.bls.gov/ro1/home.htm</a> National BLS web site: <a href="http://stats.bls.gov">http://stats.bls.gov</a>

## Workers' Compensation Case Management System

<b>Description</b>	The Case Management System is the Department of Industrial Accident (DIA)'s operational database system that is used to administer the DIA's adjudicative and administrative functions. The data the DIA receives includes the First Report of Injury (FRI) filing known as Form 101. A FRI is filed by an employer or their agent when an employee has been injured on the job and is unable to work for five or more days.
<b>Mandate and/or purpose for data collection</b>	The DIA is required to collect WC information and to administer the Commonwealth's WC system, providing dispute resolution of cases through due process and adjudication, under Massachusetts General Law c. 152,. The purpose of the database is to maintain the case files for all disputed workers' compensation claims and to track compensable injuries (defined as when at least five days wages have been lost) in Massachusetts.
<b>Definition of a case record in the database</b>	A work-related injury or illness resulting in five or more lost workdays sustained by a worker covered by WC whose case has entered the WC system for lost wage replacement. A single individual with more than one injury may be counted as more than one case.
<b>Period of data collection</b>	Circa 1920 forward (computerized since 1986; - all records for the period of circa 1940 to 1980 are kept on microfilm at the Massachusetts State Records Center).
<b>Method of data collection</b>	Cases enter the system by the employer's filing of a First Report of Injury, a worker's filing of a WC claim (DIA Form 110), or insurer filing of payment or non-payment. These are hard copy forms submitted to the DIA and entered into a computerized database by agency staff. The DIA has also begun the process of accepting form filings on-line via its web site at <a href="http://www.mass.gov/dia">www.mass.gov/dia</a> .
<b>Key data elements</b>	<u>Demographics</u> : name, address, telephone number, date of birth, sex; <i>no race or ethnicity information</i> . <u>Employment information</u> : regular occupation, employer name and address, Standard Industrial Classification (SIC) industry code, location where injury occurred if different from company address. <u>Injury information</u> : Occupational Illness and Injury Classification (OIIC) codes for: injury type, body part, source of injury, nature of accident; a narrative description of how the incident occurred. <u>Other</u> : administrative flag that indicates how case entered the system (e.g. via an Employer's First Report, worker's claim).
<b>Coding of occupational and diagnostic variables</b>	<u>Occupational</u> : Industry is not coded at DIA, but employers are asked to submit the two-digit SIC code for their business on the First Report of Injury. (This information is not available for all cases.) Occupation is not coded. <u>Diagnostic</u> : Injury variables are coded according to the American National Standards Institute (ANSI) coding scheme for work-related injuries and illnesses (with some exceptions).
<b>Data accessibility</b>	<u>Summary aggregate data</u> : available only to the Massachusetts Department of Public Health, however, DIA sets specific conditions on access and requires a confidentiality agreement. <u>Case-level data</u> : not available.
<b>Examples of published documents</b>	Annual Report of the DIA and the Workers' Compensation Advisory Council
<b>Database location, point of contact and website</b>	Massachusetts Department of Industrial Accidents Contact: Bill Taupier, 617-727-4900 ex. 560 Website: <a href="http://www.mass.gov/dia">www.mass.gov/dia</a> (Since the database is not a publicly accessible media, DIA does not post the details of the system.)